THE TUBERCULOSIS WAR PROBLEM

OF THE

UNITED STATES

(Tenth Edition.)

BY GEORGE THOMAS PALMER, M. D.,

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IF THE WAR IN EUROPE SHOULD END TO-DAY, FRANCE WOULD STAGGER UNDER THE BURDEN OF A HALF MILLION OF HER PEOPLE CRIPPLED BY THE WOUNDS OF BATTLE AND ANOTHER HALF MILLION OF HER PEOPLE SUFFERING FROM ACTIVE TUBERCULOSIS. THE UNITED STATES HAS NOW ENTERED UPON THE SAME WAR AND THE SAME KIND OF WARFARE.

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"We are of the opinion, from our own experiences and interpretation of expert opinion in this matter as well as from the experiences of the armies in Europe, that any man with even a very limited amount of pulmonary tuberculosis, which is latent or arrested, is almost certain to break down under the physical strain of military training and army life, and a focus of disease previously latent or arrested will almost certainly become active."—From the report of a Committee of the National Association for the Study and Prevention of Tuberculosis.

FOREWORD.

A MEMBER OF THE FRENCH MISSION which recently visited the United States, is said to have remarked: "The Nation does not yet realize that it is at war." And yet we are in the midst of military preparation such as America has never known before.

It was in the midst of her military activity, when every nerve was strained to send men to the front and when the sick and the wounded were coming back, that France first appreciated the magnitude of her Tuberculosis Problem; that France first realized that she was at war and all that modern warfare means.

If France and Belgium, England, Italy and Germany,—if all of the warring nations were starting the war with the knowledge they have gained by cruel experience, I am sure that they would build machinery to fight Tuberculosis as they built machinery to fight the game of war.

In the following pages there has been no effort to voice individual opinion. What the United States must do to avoid the War Tragedy of Tuberculosis, we must learn, as we are learning how to play the modern game of war, from our brothers in arms. In the game of war, we like to believe, our brothers in arms are moving toward success. In the warfare against Tuberculosis, they tell us they have failed. We must learn our lessons from their failures.

The first edition of this circular was issued in June 1917. I should like above all things to believe that the message it carried has been responsible, in part at least, for the splendid awakening of the various sections of Illinois to the importance of this tremendous problem. The fact that the states of Iowa, Indiana, Washington, Maine, North Carolina, South Carolina, Arkansas, and Montana have asked permission to republish this circular for their own uses, encourages me to believe that it has not been without influence in other parts of the nation and that there is a distinct need for this edition to replace the previous Illinois editions now exhausted.—G. T. P.

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WHAT EUROPE HAS EXPERIENCED AND WHAT THE UNITED STATES HAS REASON TO EXPECT.

BY GEORGE THOMAS PALMER, M. D.,

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TUBERCULOSIS AS A WAR PROBLEM.

The tragic experience of France and Belgium and the serious situation in the other warring countries of Europe are conclusive evidence that tuberculosis constitutes one of the most important problems of modern warfare.

In France, the disease has become so prevalent as to threaten the strength and integrity of the entire Nation. In Belgium it is the great scourge of the civil population. In England, civil, medical and military authorities are struggling to bring about the preventive and curative measures which should have been planned at the beginning of the war.

Forewarned as we are by the experience of other nations, it will be unpardonable if the United States does not take definite steps to safeguard the military and civil population from the wartime tragedy of tuberculosis.

What France and England are suffering was largely preventable.

At the present time, France is being aided in meeting her enormous problem by a corps of Americans, financed by the Rockefeller Foundation and under the direction of Dr. Livingston Farrand in cooperation with the French Government and the American Red Cross. England is taking hold of her tuberculosis situation as well as she can with her crippled medical forces and is officially demanding that every county and borough shall work out a scheme for caring for the returned tuberculous soldier and is lending financial aid to complete this local organization. Belgium lies helpless, her condition even worse since the forced withdrawal of American relief agencies.

CAUSES OF INCREASED TUBERCULOSIS IN EUROPE.

Authentic reports, many of them official in character, attribute the great increase of tuberculosis in Europe to the following factors:

1.—Failure to appreciate the importance of tuberculosis under war conditions.

2.—Failure to meet the normal tuberculosis needs prior to the war.

3.—Peculiar susceptibility of young men to active tuberculosis.

4.—Failure to detect tuberculosis among soldiers at the time of enlistment, due to overwork of examining physicians and insufficient accent on tuberculosis.

5.—Unusual tendency of tuberculous persons to enlist and to conceal their illness.

6.—Conditions in active service fanning incipent or dormant tuberculous

infection into active disease; physical, nervous and emotional overstrain, loss of sleep, inadequate food and damp, crowded and insanitary quarters.

7.—Enormous increase of tuberculosis in prison camps due to mental and emotional overstrain, insufficient food, overcrowding and insanitary conditions.

8.—Obsolete methods of detecting tuberculosis among the men in active service whereby the disease is recognized only in an advanced and often incurable stage.

9.—Inadequate hospital and sanatorium facilities necessitating the return of soldiers with active tuberculosis to their families, thus spreading the disease in the civil population.

10.—Increase among the poorer and working classes of the civil population owing to the strain of war, industrial speeding-up and scarcity and prohibitive price of food.

11.—Increase among the families of soldiers due to the necessity for women engaging in gainful occupations, mental anguish, grief and anxiety and the prohibitive cost of food.

12.—Inability to meet the tuberculosis needs of the civil population and of the returned soldiers on account of the drafting of expert physicians and tuberculosis nurses for military service.

THE PREPAREDNESS PROGRAM FOR THE UNITED STATES.

Without entering upon a discussion of the details, the program of the United States for the control of tuberculosis during the war should be influenced by the experience of other nations and we should secure in advance the means of control which these nations are now struggling to obtain and struggling against tremendous odds.

Taking up the questions of preparedness in the order in which the causes of the disease in Europe were enumerated on a previous page, the following suggestions for "An American Plan" present themselves:

1.—The Importance of Tuberculosis as a War Problem was not appreciated by any of the warring nations. According to Dr. Hermann M. Biggs,[1] tuberculosis has never been accorded serious consideration by the health authorities of France. At the present time, Dr. Biggs declares that there are 450,000 persons in France incapacitated by wounds of battle and another 450,000 incapacitated by active tuberculosis and the disease steadily increasing. In England the tuberculosis problem is a serious one, although in times of peace the tuberculosis rate in England is lower than in any other important nation. So far, there is no indication that the United States has come to fully realize what tuberculosis will mean to us in the present war save the appointment of a subcommittee on tuberculosis of the General Medical Board of the Council of National Defense.

2.—The Needs of the Tuberculous in Normal Times have been practically ignored in France. There was no anti-tuberculosis machinery to serve as a nucleus of the organization needed to meet the gigantic problem brought about by the war. England had done more than France; but not enough to meet normal needs. The local tuberculosis organizations of England, however, are the very backbone of the elaborate system the nation is now developing to check the spread of the disease.

The United States may be regarded as standing midway between the total

unpreparedness of France and the incomplete preparedness of England. We are in a better position than the one and not so good as the other.

The Federal Government of England has taken a part in the warfare against tuberculosis. In the United States the Federal Government has done nothing; tuberculosis, together with other health problems, being left to the state government and local communities.

Some states are reasonably prepared to meet the needs of the tuberculous in time of peace. Others, such as Illinois, are hopelessly unprepared. The State of Illinois has done practically nothing to combat tuberculosis. There is no State tuberculosis sanatorium, no State tuberculosis commission. Chicago has gone far in advance of the rest of the State. Outside of Cook County, the provision for the tuberculous is negligible and practically all work has been carried on by the expenditure of limited private funds. It is not organized, not systematized and wholly unprepared for wartime burdens.

In England, where the problem is greatly simplified on account of the fact that about one-half of the soldiers have health insurance, giving thirteen weeks care in private sanatoria, the national government is depending upon the boroughs to care for the returned tuberculous soldier[2] during the time that the central government is engaged with the more acute problem of making war. On account of the inadequate federal provision for tuberculous soldiers in the United States, it will doubtless be necessary, during the present war, to return the consumptive soldier to his own community.

Hence, as a part of an intelligent plan to meet the tuberculosis problem of the war, every community must have ready and waiting the machinery for effective tuberculosis work far in excess of that which would be required in time of peace.

3.—Failure to Detect Tuberculous Infection, incipient tuberculosis or even more active disease by the medical recruiting officers is freely admitted in England and France. In England this is accounted for by the fact that the army medical corps was greatly overworked and no effort was made to ascertain even the previous tuberculosis history of the individual[3] In France, there is some shadow of excuse for the admission of thousands of tuberculous individuals on account of the great haste necessary in recruiting and the undeveloped condition of tuberculosis work throughout the nation.

England is said to be struggling with the problem of having on her hands 100,000 soldiers who have been proven physically unfit and who never should have been passed by her recruiting physicians. Hundreds of these were able to serve only two or three days and yet they have a claim upon the government for care and for pensions because they were admitted to service.[4]

In the United States, the ability of the army medical service, in recruiting an army of a million or more men, will be taxed beyond limit and it will be necessary to enlist the services of many physicians from civil life who are unaccustomed to the examination of recruits and who are in no sense skilled in the early diagnosis of tuberculosis. Even now, before the great rush of recruiting and before the compulsory service law is in effect, cases are reported of sanatorium patients, still sick with active tuberculosis, being received into military service.[5]

Other nations have recognized that they must employ methods of exam-

ination of recruits more efficient than those regarded satisfactory by their army medical service in times past, if they are to detect early cases of tuberculosis. In this connection it is interesting to note that, before the war, the incidence of tuberculosis in the German Navy was 2 per 1,000; in the English Navy, 3 per 1,000 while, in the United States Navy there have been as many cases as 6 per 1,000,[6] indicating that the recruiting methods of the United States Navy in times of peace have probably not been as thorough as those of other nations.

The foregoing suggests that an effective program for the control of tuberculosis by the United States, must include more thorough examination of recruits at the time of enlistment and, probably, the employment of men expert in the diagnosis of early tuberculosis in connection with each group of recruiting stations.

The National Tuberculosis Association recommends special expert examination for every man whose history shows any illness resembling tuberculosis or any attack of pneumonia or pleurisy or in whose family there has been a case of or death from tuberculosis; every man with flat chest and below normal weight, or suffering with chronic catarrh or abnormal chest condition.

4.—The Tendency of the Tuberculous to Enlist in military service and to make every possible attempt to conceal their true condition, must be borne in mind if we are to eliminate tuberculosis from our military forces. According to Dr. Horace Wilson,[7] this class of recruits was very numerous at the beginning of the war in England. These recognized consumptives joined the army for the following reasons: (1) Pure patriotism; (2) In the belief that camp life would be beneficial to them; (3) With the feeling that they would as soon die in the trenches as to die slowly at home; (4) In view of the fact that, if they died in service, their families would be provided for through pensions. It is astonishing how many of these recognized consumptives succeeded in passing the recruiting physicians in spite of the fact that the army in England was organized far more leisurely than in France. It is unnecessary to quote Dr. Wilson in saying that most of these recruits broke down at once, many dying soon after.

To prevent the enlistment of men frankly tuberculous, during 1916 a government order in England required the local health officials to supply the tuberculosis history of each individual to the recruiting officers.[8] It must be borne in mind that this would be far more effective in England than in the United States, since the reporting of tuberculous cases is not required in many communities in this country and is enforced in almost none.

In view of the authentic cases of tuberculous patients leaving sanatoria for the purpose of enlisting,[9] it must be borne in mind that the tendency to enlist on the part of these more or less hopeless individuals may be as real in the United States as it has been in Great Britain and, in view of the fact that tuberculosis is rarely a reported disease in the United States, not only must every possible effort be made to obtain the previous history of the recruit, but the physical examination of recruits must be infinitely more thorough than is now acceptable in England.

Since early tuberculosis is so difficult to diagnose, and since it can rarely be diagnosed in the ordinary examination in recruiting, it would seem advisable to have subsequent examinations in mobilization camps by physicians ex-

pert in the diagnosis of this disease. Even though the men have been fully enlisted by the government, it is better to accept the responsibility for the incipient and curable consumptive before he has seen service than to assume the care of the advanced consumptive who has gone to pieces on his way to the front and to further assume the permanent responsibility for the care of his family.

5.—Incipient or Inactive Tuberculosis is Fanned into Active Disease by conditions which reduce the vitality of the individual, such as physical, nervous or emotional overstrain, loss of sleep, inadequate food and damp, crowded and insanitary quarters. These are the conditions, incidentally, which must be expected by all men who engage in modern warfare. The incipient consumptive, who might go through the ordinary demands of life with no evidence of disease save moderate inefficiency, will become actively tuberculous under the strain of modern war. It must be borne in mind that active tuberculosis is essentially a disease of youth and young manhood especially likely to develop at the age of military service.

It is on this account that every point should be strained to eliminate the incipient consumptive from the recruits at this time. It will be our experience, as it has been that of the European nations, that, while the incipient consumptive may improve in condition in concentration camps, he will go to pieces under the stress of service at the front.

6.—The Enormous Prevalence of Tuberculosis in the Prison Camps of Germany, which led to the sensational statements that French prisoners were being inoculated with virulent tubercle bacilli by the German authorities,[10] suggests to everyone conversant with the present theories of the development of tuberculosis, that every soldier must be fit material to become a military prisoner. The tuberculosis of the German prison camps was probably not due to new infection; but to the lighting up of dormant infection or incipient disease by the overstrain, grief, fear, insufficient food, overcrowding and insanitary conditions which may come to every prisoner of war.

7.—The Obsolete Methods of Determining Tuberculosis among the men at the front has been responsible for the spread of the disease throughout France and for the unnecessary death of many French soldiers. This is the reliance on the presence of tubercle bacilli in the sputum as the only conclusive evidence that the individual is actively tuberculous.

Through the acceptance of this doctrine, only those individuals suffering from more or less advanced disease have been discharged and, since the test is made only at evacuation hospitals, after the individual has become unfit for military service, most of those who have been returned to France have been in an incurable stage of the disease.

It is interesting to note that the Surgeon General of the national guard of a foremost state, recently took the stand, in an official communication, that the presence of bacilli in the sputum is the only positive evidence of tuberculosis. It must be borne in mind that this wholly untenable doctrine is accepted by many physicians whose surgical and general medical skill would justify their acceptance as army surgeons. To control tuberculosis during the war, the United States must adopt standards of diagnosis in advance of those now accepted by the rank and file of the medical profession.

8.—Inadequate Hospital and Sanatorium Facilities have added materially

to the mortality among the tuberculous soldiers and contributed to the spread of tuberculosis in Europe France, in her struggle to meet the tuberculosis problem, hopes to have 15,000 sanatorium beds available at the end of 1917;—15,000 beds for her 450,000 tuberculous people! As a result of this unpreparedness in sanatorium facilities, 100,000 of the 160,000 actively tuberculous French soldiers have been compelled to return to their homes, doubtless spreading the disease among their families.[11]

In England, where sanatorium provisions were much more nearly adequate prior to the war and where, through health insurance and government grant, all soldiers are entitled to thirteen weeks of sanatorium care, Dr. Cuthbert G. Welch[12] has pointed out the acute need for longer periods of sanatorium care and for provision of tuberculosis hospitals for the soldiers returning to their communities in active stages of the disease. England is also establishing educational centers and large farm colonies for her soldiers who have been discharged from sanatoria.[13] The soldiers engaged in these farm colonies are under the supervision of a well-organized system of dispensaries and visiting nurses.

Under the new plan, before being returned to his home, the soldier should show (1) Absence of bacilli from the sputum after repeated tests; (2) Normal temperature after vigorous exercise; (3) Absence of all signs of disease on chest examination, and (4) Absence of all tendency to hemoptysis.[14]

It will be recalled that, owing to the stress of war, England expects all of these provisions to be carried out by the soldier's home community.

How well is Illinois prepared to carry out such a program?

In the entire State, there are probably about 2,700 beds for the tuberculous with about 8,000 dying from the disease each year. In the State outside of Chicago, there are between 4,000 and 5,000 deaths each year and, in all that territory of one of the richest States in the Union, there are 250 beds for the tuberculous, 200 of which are in private sanatoria operated at high rates.

To meet the tuberculosis problem of war, each large community and each county should provide, either by public expenditure or private subscription, (1) Hospital accomodations for active and advanced cases; (2) Sanatoria for earlier and improving cases where the patient may stay until all activity of disease has ceased, whether it be a month or a year; (3) Dispensaries and visiting nurse service for after-care; (4) Farm colonies or carefully selected and carefully supervised employment. This will mean immediate activity on the part of existing tuberculosis organizations and health departments and the creation of active new tuberculosis organizations in practically every community and county in the United States.

9.—The Increase of Tuberculosis in the Working Classes on account of the mental strain of war, the industrial speeding up with the abolishment of reasonable working hours and the scarcity and prohibitive price of food, was anticipated by all of those who understood the accepted doctrine of the development of tuberculosis, and such increase is to be anticipated under similar conditions in the United States. The extreme effect of war conditions upon the civil population has shown itself in Belgium. According to W. P. Lucas,[15] tuberculosis has increased fully one hundred percent in this unfortunate country since the beginning of the war and the disease is more virulent and of a more malignant type than during ordinary times. Cases of gladular, peritoneal, laryngeal and meningeal tuberculosis are exceedingly common.

Dr. Naeirelaers,[16] of Brussels, reports an increase of one hundred and fifty percent in tuberculosis in children in the hospitals, while a similar increase is reported in tuberculosis of the throat. Dr. Trien,[17] of Antwerp, declares that tuberculosis has increased two hundred and thirty percent in his experience since 1915, while Dr. Gengon reports an increase of one thousand percent in tuberculous glands and declares that seventy percent of the school children in Brussels have developed enlarged cervical glands, many cases being obviously tuberculous. It has become necessary for the Brussels schools to supply food to the children to supplement the short supply of rations at home.

While the experience in Belgium has been extreme, it is indicative of what may occur to a less extent in the United States.

To prevent undue tuberculosis in the civil population in the United States, it will be necessary to coordinate the efforts of various governmental agencies. The prohibitive cost of food is already making itself felt in the tuberculosis problem of the United States. To meet the condition there must be: (1) Maximum production of food supplies; (2) Control of food prices; (3) Improved sanitary conditions for industrial workers including the prevention of overcrowding in manufacturing centers; (4) The development of out-of-door schools and arrangement for the supplementary feeding of the children of the poor; (5) Increased dispensary, sanatorium and visiting nurse service; (6) Provision for the segregation of advanced consumptives in industrial communities.

10.—The Increase of Tuberculosis Among the Families of Soldiers, observed in European Countries, is the natural result of war conditions with mental anguish, grief and anxiety; the prohibitive cost of food and the necessity for women engaging in gainful occupations. An added factor, of course, is the return of the actively tuberculous soldier spreading infection particularly among the children of his household.

According to Horace Wilson,[18] this increase of tuberculosis may be limited by proper provision for the families of soldiers and it has been found that industrial employment for the wives of such soldiers, if properly supervised, is beneficial rather than otherwise. In England, day nurseries have been created for the children of working women and, to relieve these working women of domestic burdens, food is supplied at the nurseries and in the factories. This food is better prepared and of more liberal quantity than these persons ordinarily have in their homes, while the sanitary conditions of the nurseries and most of the factories are infinitely better than the tenements. Active employment and contact with large numbers of other women seem to so occupy the minds as to reduce the anxiety and mental anguish which would be experienced in waiting at home.

The increase of Tuberculosis Among the Families of Soldiers in the United States Could be Limited by: (1) Liberal provision for the non-working wives of soldiers; (2) Liberal pay for the women who are employed; (3) The establishment of day nurseries for the children of working women; (4) Provision of comfortable and sanitary factory and working conditions; (5) The provision of nourishing and well prepared food in the nurseries, schools and factories; (6) Hospital and sanatorium care under compulsion for all tuberculous soldiers until they are no longer open cases. This last condition can be brought about by retaining tuberculous soldiers in military service and discharging none of them until the disease is arrested.

11.—The Depletion of Anti-tuberculosis Forces through the enlistment of expert physicians and tuberculosis nurses for military service, was one of the serious mistakes in England at the beginning of the war. According to Sir Arthur Newsholme,[19] statistical information on tuberculosis in the civil population of England is unobtainable on account of the fact that the few tuberculosis workers left in the civil population have been overwhelmed by the demands upon them. With the increasing tuberculosis problem, France will doubtless find it necessary to seek the assistance of American physicians to control the disease in both the military and civil classes, while Great Britain will find it necessary to recall some of her tuberculosis experts from the front and is already offering employment to American physicians in her civil population. For England to perfect the elaborate scheme of tuberculosis care in every county and borough,[20] will require a large number of physicians expert in the diagnosis and treatment of tuberculosis and competent in sanatorium administration and an army of nurses with tuberculosis experience. The problem of obtaining such forces is almost unsurmountable on account of the dissipation of the anti-tuberculosis forces through enlistment in military service earlier in the war.

To Meet the War Needs of the United States and to avoid the mistakes of European nations, state and local anti-tuberculosis organizations should not only maintain their integrity but should expand their forces. It would be the height of folly to draft tuberculosis experts and tuberculosis nurses for military service and later to find it necessary to meet the tuberculosis problem, which will inevitably come in case of active war, with wholly incompetent and untrained physicians and nurses.

SUMMARY OF A PROGRAM.

Based upon the unfortunate experiences of European nations, the logical war program for the control of tuberculosis in the United States may be summarized as follows:

1.—Full appreciation of the importance of tuberculosis in war by the military authorities, tuberculosis organizations, health officials, civil officers and the people.

2.—The immediate development of anti-tuberculosis machinery with dispensaries, visiting nurses, hospitals, sanatoria and farm colonies in every large community and in every county.

3.—Improvement in methods of examining recruits at enlistment and of all soldiers including:

(a) Employment of experts for the examination of suspected cases.

(b) Re-examination of enlisted men in mobilization camps.

(c) Closer observation of enlisted men in the field for the earlier detection of evidences of tuberculosis.

(d) The adoption of a list of "suggestive signs" or "danger signals" of tuberculosis which will prompt army medical officers to refer soldiers for more complete examination.

4.—Closer scrutiny to detect tuberculous individuals who enlist and attempt to conceal their illness.

(a) Cooperation between recruiting officers and local authorities to secure previous tuberculosis histories.

(b) Thorough tuberculosis surveys of all communities by health officers or tuberculosis associations to obtain this information.

5.—The elimination, by every possible means, of tuberculosis persons from among those who will be subjected to the strain of military service.

(a) Rigid examination of recruits.

(b) Re-examination in concentration camps.

(c) Periodical re-examination in service.

6.—Adoption of means of early diagnosis of tuberculosis and acceptance of the fact that the consumptive who becomes physically incapacitated or who has bacilli in the sputum is usually advanced and is often incurable.

7.—Immediate establishment of tuberculosis hospitals and sanatoria in every large community and county not adequately provided at the present time and the increase in capacity of all existing institutions.

(a) Establishment of tuberculosis hospitals in every county or group of counties for the care of active and advanced cases.

(b) Development of tuberculosis departments in all general hospitals. While probably not advisable under ordinary conditions, this will prove a satisfactory war time measure if under the supervision of physicians and nurses experienced in tuberculosis.

(c) Creation of sanatoria in all counties not having same.

(d) Increase in capacity of all existing sanatoria.

(e) Industrial or farm schools in connection with sanatoria.

(f) Farm colonies for those discharged from sanatoria.

(g) Development of dispensaries and nursing service for after-care of patients in farm Colonies and in their homes. There should be at least one dispensary with nursing service in every county or large community.

(h) Increased facilities of all existing dispensaries and nursing service.

(i) Introduction of instruction on tuberculosis in nurses' training schools.

8.—To control tuberculosis in the civil population it will be necessary to:

(a) Guarantee reasonable food supplies for all people, through federal control of prices or increased public and private charity.

(b) Supervision of living conditions and working conditions of industrial workers.

(c) The provision of out-of-door schools with supplementary feeding for school children in all communities.

(d) Dispensary and visiting nurse service available to the civil population.

(e) Medical supervision and physical examination to detect open tuberculous cases in industrial communities.

9.—The control of Tuberculosis among the families of soldiers may be brought about by:

(a) Liberal provision by public or private charity for wives and children of soldiers.

(b) Liberal pay for women who are employed.

(c) Establishment of day nurseries for the children of working women.

(d) Supervision of factory and working conditions.

(e) Provision of nourishing food in nurseries, schools and factories if found necessary.

(f) Retention of tuberculous soldiers under military control until the case is no longer open.

10.—To intelligently meet the technical side of the tuberculosis war problem by:

(a) Withholding physicians and nurses engaged in active tuberculosis work from military service until an urgent need may arise.

(b) Enlisting the interest of county medical societies to induce one physician in every county or large community to perfect himself in the diagnosis and treatment of tuberculosis.

(c) The employment of a community nurse with tuberculosis experience in every county or large community.

(d) The special training of graduate nurses in tuberculosis work.

(e) The creation of classes of intelligent lay-women to supplement the service of graduate nurses in instructive and nursing work among the tuberculous.

(f) The encouragement of young physicians and medical students to affiliate themselves with established dispensaries to increase their efficiency in tuberculosis work.

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"In this emergency we must retain and encourage the intensification of the methods and conditions which have proved valuable in the past, and which no radical innovation has as yet arisen to supplant."—Editorial in Jour. Amer. Med. Assn. June 9, 1917.

The plan adopted by the Rockefeller Foundation to save France from the scourge of disease is based on more education, more dispensaries, more nurses—more work among all the people.

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